Maritime Technical Services

G1128, Traffic Clearance Service & Route Exchange Service

SOLITA

G1128

- IALA guideline on how to specify technical services
- Three layers:
  - Service specification: data model, business processes, technology agnostic
  - Service design: technology specific (e.g. SECOM) design based on specification, basis for actual implementation
  - Service implementation: implements design (or multiple designs)
- Templates for all documents, including template for designs tailored for SECOM
- Versioning scheme for specifications:
  - Odd-numbered major version for testing
  - Even-numbered major version for production use

G1128 – what is missing?

- Testing…
  - DTEC5 (October 2025) opened discussion around this
- How to test services and consumers that
  - both have HTTP clients and servers,
  - are developed by multiple parties,
  - are developed in different languages & frameworks
- For ensuring interoperability this is paramount
- Should have some answers in March 2026

Additional information

- IALA Technical Services https://www.iala.int/technical/technical-services/
  - G1128
  - G1183
  - G1191
  - Service Specification for Route Exchange
  - Service Design for Route Exchange
- SECOM test data https://cirm.org/secom (version 1 currently)
- Route test data https://cirm.org/s-421 (version 1 currently)

Traffic Clearance Service

Why?

- Case-study to explore the process of defining a maritime technical service
- Learning for both technical and operational stakeholders
- The importance of defining use cases in collaboration with all necessary stakeholders

“One of the main tasks for VTS is to monitor and manage vessel traffic, including establishing a system for traffic clearances.“

What?

- Bi-directional communication between VTS and ship
- Service Design using SECOM
- Simple interaction based on structured messages (S-212 subset)
- Two implementations known: Finland and Korea
- Test client developed on top of ECDIS kernel in Finland
- Testing and simultaneous development in two countries and multiple organizations

Used SECOM interfaces

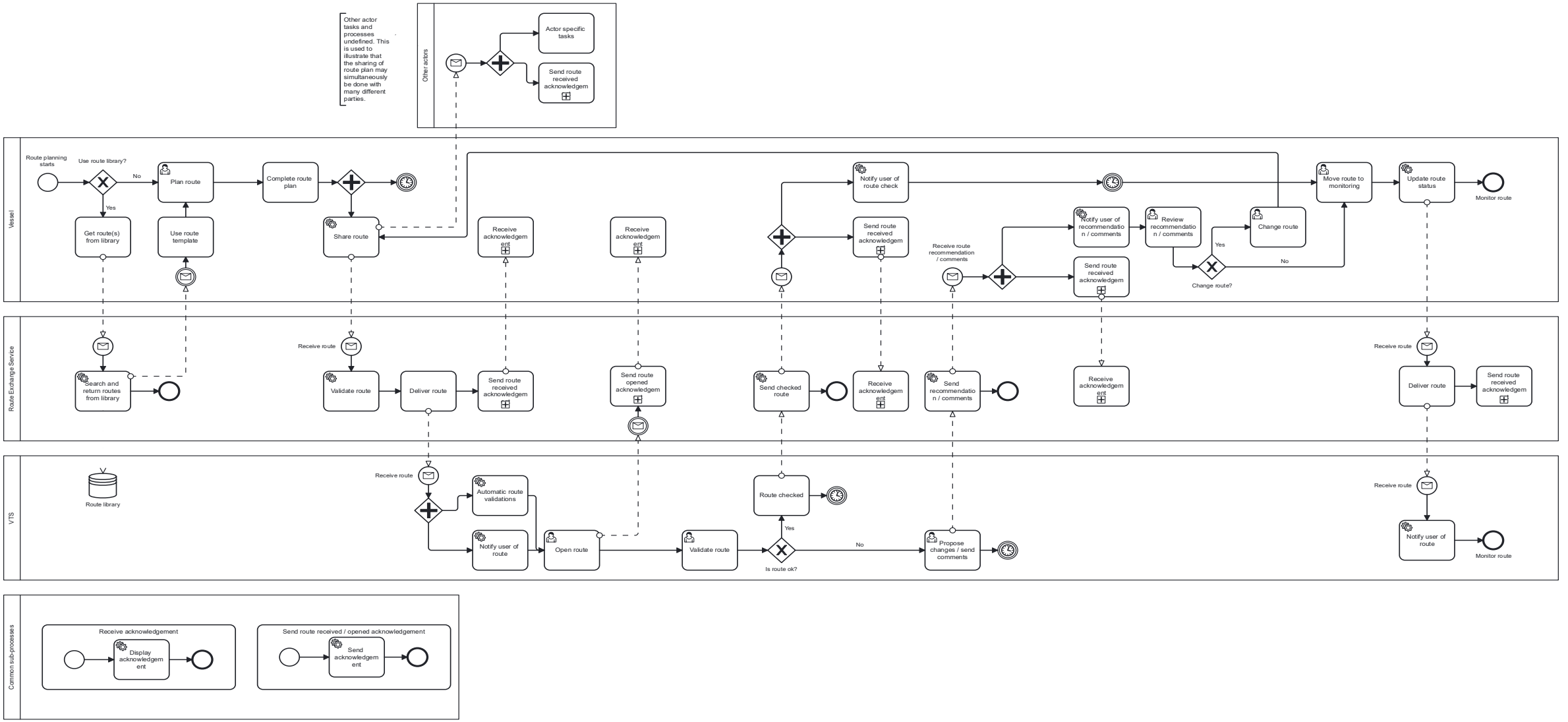
- Upload
- Acknowledgment
- Subscription (only service)
- Remove Subscription (only service)

Route Exchange Service

Why?

- Support for bi-directional route exchange using SECOM and S-421 is required by IMO
- No service specifications exist
- VTS is the main stakeholder on the shore side for route exchange
- IEC 63173-1 an 63173-2 being updated based on specification and design

Business process



What?

- Exchange of route using S-421 for
  - Checking
  - Monitoring
  - Use of route reference libraries
- S-421 version 2 under development in IEC TC80 WG17 (to be released Q4 2026/Q1 2027)
- Using SECOM
- Will be utilized by multiple future services (e.g. under keel clearance)
- Implementations of services starting in multiple organizations

Used SECOM interfaces

- Upload
- Upload link
- Acknowledgment
- Get
- Get Summary (service only)
- Get By Link
- Access / Access Notification (optional for consumer)
- Subscription / Remove Subscription / Subscription Notification
- Encryption Key / Public Key (optional for consumer)

Challenges & lessons learned

Challenges

- Business processes around maritime technical services are not being defined end-to-end
  - No forum for all stakeholders to discuss
- Ensuring interoperability between services and consumers
- Complexity of human factors

Lessons learned

- Specifications and designs must have testing information
- More example data is needed to support development and testing
- Co-operation between stakeholders during development is helpful

Thank you!

Ramin Miraftabi
Senior Consultant
+358 50 563 2485
ramin.miraftabi@solita.fi